



#3

## SEQUENCE LISTING

<110> GUTIERREZ-ARMENTA, CRISANTO  
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XIE, QI  
LOPEZ, PAULA S.

<120> PLANT RETINOBLASTOMA-ASSOCIATED PROTEINS

<130> 4148-6

<140> 10/025,676

<141> 2001-12-26

<150> PCT/ES96/00130

<151> 1996-06-13

<150> PCT/EP97/03070

<151> 1997-06-12

<160> 19

<170> PatentIn Ver. 2.1

<210> 1

<211> 683

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: plant RB protein

<400> 1

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			20					25					30		

Asn	Asp	Tyr	Ile	Pro	Tyr	Asp	Glu	Asn	Ser	Thr	Gly	Asp	Ser	Thr	Asn
		35					40					45			

Leu	Gly	His	Ser	Lys	Cys	Ala	Phe	Glu	Thr	Leu	Ala	Ser	Pro	Thr	Lys
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Thr	Ile	Lys	Asn	Met	Leu	Thr	Val	Pro	Ser	Ser	Pro	Leu	Ser	Pro	Ala
65					70					75					80

Thr	Gly	Gly	Ser	Val	Lys	Ile	Val	Gln	Met	Thr	Pro	Val	Thr	Ser	Ala
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Met	Thr	Thr	Ala	Lys	Trp	Leu	Arg	Glu	Val	Ile	Ser	Ser	Leu	Pro	Asp
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Lys	Pro	Ser	Ser	Lys	Leu	Gln	Gln	Phe	Leu	Ser	Ser	Cys	Asp	Arg	Asp
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Leu Thr Asn Ala Val Thr Glu Arg Val Ser Ile Val Leu Glu Ala Ile  
130 135 140

Phe Pro Thr Lys Ser Ser Ala Asn Arg Gly Val Ser Leu Gly Leu Asn  
145 150 155 160

Cys Ala Asn Ala Phe Asp Ile Pro Trp Ala Glu Ala Arg Lys Val Glu  
165 170 175

Ala Ser Lys Leu Tyr Tyr Arg Val Leu Glu Ala Ile Cys Arg Ala Glu  
180 185 190

Leu Gln Asn Ser Asn Val Asn Asn Leu Thr Pro Leu Leu Ser Asn Glu  
195 200 205

Arg Phe His Arg Cys Leu Ile Ala Cys Ser Ala Asp Leu Val Leu Ala  
210 215 220

Thr His Lys Thr Val Ile Met Met Phe Pro Ala Val Leu Glu Ser Thr  
225 230 235 240

Gly Leu Thr Ala Phe Asp Leu Ser Lys Ile Ile Glu Asn Phe Val Arg  
245 250 255

His Glu Glu Thr Leu Pro Arg Glu Leu Lys Arg His Leu Asn Ser Leu  
260 265 270

Glu Glu Gln Leu Leu Glu Ser Met Ala Trp Glu Lys Gly Ser Ser Leu  
275 280 285

Tyr Asn Ser Leu Ile Val Ala Arg Pro Ser Val Ala Ser Glu Ile Asn  
290 295 300

Arg Leu Gly Leu Leu Ala Glu Pro Met Pro Ser Leu Asp Asp Leu Val  
305 310 315 320

Ser Arg Gln Asn Val Arg Ile Glu Gly Leu Pro Ala Thr Pro Ser Lys  
325 330 335

Lys Arg Ala Ala Gly Pro Asp Asp Asn Ala Asp Pro Arg Ser Pro Lys  
340 345 350

Arg Ser Cys Asn Glu Ser Arg Asn Thr Val Val Glu Arg Asn Leu Gln  
355 360 365

Thr Pro Pro Pro Lys Gln Ser His Met Val Ser Thr Ser Leu Lys Ala  
370 375 380

Lys Cys His Pro Leu Gln Ser Thr Phe Ala Ser Pro Thr Val Cys Asn  
385 390 395 400

Pro Val Gly Gly Asn Glu Lys Cys Ala Asp Val Thr Ile His Ile Phe  
405 410 415

Phe Ser Lys Ile Leu Lys Leu Ala Ala Ile Arg Ile Arg Asn Leu Cys  
420 425 430

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Glu Arg Val Gln Cys Val Glu Gln Thr Glu Arg Val Tyr Asn Val Phe  
435 440 445

Lys Gln Ile Leu Glu Gln Gln Thr Thr Leu Phe Phe Asn Arg His Ile  
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Asp Gln Leu Ile Leu Cys Cys Leu Tyr Gly Val Ala Lys Val Cys Gln  
465 470 475 480

Leu Glu Leu Thr Phe Arg Glu Ile Leu Asn Asn Tyr Lys Arg Glu Ala  
485 490 495

Gln Cys Lys Pro Glu Val Phe Ser Ser Ile Tyr Ile Gly Ser Thr Asn  
500 505 510

Arg Asn Gly Val Leu Val Ser Arg His Val Gly Ile Ile Thr Phe Tyr  
515 520 525

Asn Glu Val Phe Val Pro Ala Ala Lys Pro Phe Leu Val Ser Leu Ile  
530 535 540

Ser Ser Gly Thr His Pro Glu Asp Lys Lys Asn Ala Ser Gly Gln Ile  
545 550 555 560

Pro Gly Ser Pro Lys Pro Ser Pro Phe Pro Asn Leu Pro Asp Met Ser  
565 570 575

Pro Lys Lys Val Ser Ala Ser His Asn Val Tyr Val Ser Pro Leu Arg  
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Gln Thr Lys Leu Asp Leu Leu Leu Ser Pro Ser Ser Arg Ser Phe Tyr  
595 600 605

Ala Cys Ile Gly Glu Gly Thr His Ala Tyr Gln Ser Pro Ser Lys Asp  
610 615 620

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625 630 635 640

Ser Arg Leu Asn Phe Asp Met Val Ser Asp Ser Val Val Ala Gly Ser  
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<210> 2

<211> 3747

<212> DNA

<213> Zea mays

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<220>  
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<210> 5  
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<210> 6  
<211> 199  
<212> PRT  
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Ser Ser Cys Asp Arg Asp Leu Thr Asn Ala Val Thr Glu Arg Val Ser  
35 40 45

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Ile Val Leu Glu Ala Ile Phe Pro Thr Lys Ser Ser Ala Asn Arg Gly  
50 55 60

Val Ser Leu Gly Leu Asn Cys Ala Asn Ala Phe Asp Ile Pro Trp Ala  
65 70 75 80

Glu Ala Arg Lys Val Glu Ala Ser Lys Leu Tyr Tyr Arg Val Leu Glu  
85 90 95

Ala Ile Cys Arg Ala Glu Leu Gln Asn Ser Asn Val Asn Asn Leu Thr  
100 105 110

Pro Leu Leu Ser Asn Glu Arg Phe His Arg Cys Leu Ile Ala Cys Ser  
115 120 125

Ala Asp Leu Val Leu Ala Thr His Lys Thr Val Ile Met Met Phe Pro  
130 135 140

Ala Val Leu Glu Ser Thr Gly Leu Thr Ala Phe Asp Leu Ser Lys Ile  
145 150 155 160

Ile Glu Asn Phe Val Arg His Glu Glu Thr Leu Pro Arg Glu Leu Lys  
165 170 175

Arg His Leu Asn Ser Leu Glu Glu Gln Leu Leu Glu Ser Met Ala Trp  
180 185 190

Glu Lys Gly Ser Ser Leu Tyr  
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<210> 7  
<211> 199  
<212> PRT  
<213> Xenopus sp.

<400> 7

Thr Pro Val Arg Gly Ala Met Asn Thr Val Gln Gln Leu Met Val Thr  
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Leu Ser Ser Ala Asn Asp Lys Pro Pro Asp Thr Leu Asp Ser Tyr Phe  
20 25 30

Ser Asn Cys Thr Val Asn Pro Lys Thr Lys Ile Thr Asp Arg Ile Glu  
35 40 45

His Phe Gly His Val Phe Lys Glu Lys Phe Ala Ser Ser Val Gly Gln  
50 55 60

Ala Cys Ala Glu Ile Gly Tyr Gln Arg Tyr Lys Leu Gly Val Cys Leu  
65 70 75 80

Tyr Tyr Arg Val Met Glu Ala Ile Leu Lys Thr Glu Glu Glu Arg Leu  
85 90 95

Ser Val His Asn Phe Ser Lys Leu Leu Asn Asn Asp Ile Phe His Ile  
100 105 110

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- Cys Leu Leu Ala Cys Ala Val Glu Val Val Val Ala Ser Tyr Ala Arg  
115 120 125

Asn Ala Ser Gln Ala Tyr Cys Ser Ser Gly Thr Asn Leu Ser Phe Pro  
130 135 140

Trp Ile Leu Arg Ala Phe Glu Leu Lys Ala Phe Asp Phe Tyr Lys Val  
145 150 155 160

Ile Glu Cys Phe Ile Lys Ala Glu Pro Ser Leu Thr Ser Asn Met Ile  
165 170 175

Lys Tyr Leu Glu Arg Cys Glu His Gln Ile Met Glu Cys Leu Ala Trp  
180 185 190

Gln Ser Asp Ser Pro Leu Phe  
195

<210> 8  
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<212> PRT  
<213> Gallus sp.

<400> 8  
Thr Pro Val Arg Ala Ala Met Asn Thr Ile Gln Gln Leu Met Met Ile  
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Leu Asn Ser Ala Thr Asp Lys Pro Ser Asp Thr Leu Ile Ala Tyr Phe  
20 25 30

Asn Asn Cys Thr Val Asn Pro Glu Asp Ser Ile Leu Lys Arg Val Glu  
35 40 45

Cys Leu Gly His Ile Phe Lys Lys Lys Phe Ala Glu Ala Val Gly Gln  
50 55 60

Gly Cys Ala Glu Ile Gly Ser Gln Arg Tyr Gln Leu Gly Val Arg Leu  
65 70 75 80

Tyr Tyr Arg Val Met Glu Ser Met Leu Lys Ser Glu Glu Glu Arg Leu  
85 90 95

Ser Val His Asn Phe Ser Lys Leu Leu Asn Asp Asn Ile Phe His Thr  
100 105 110

Ser Leu Leu Ala Cys Ala Leu Glu Ile Val Met Ala Thr Tyr Gly Arg  
115 120 125

Thr Ala Ser Gln Ser Asp Gly Thr Ser Ala Glu Thr Asp Leu Ser Phe  
130 135 140

Pro Trp Ile Leu Asn Val Phe Asp Leu Lys Ala Phe Asp Phe Tyr Lys  
145 150 155 160

Val Ile Glu Ser Phe Ile Lys Val Glu Pro Ser Leu Thr Arg Asp Met

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165

170

175

Ile Lys His Leu Glu Arg Cys Glu His Arg Ile Met Glu Ser Leu Ala  
180 185 190

Trp Gln Ser Asp Ser Pro Leu Phe  
195 200

&lt;210&gt; 9

&lt;211&gt; 198

&lt;212&gt; PRT

&lt;213&gt; Mus sp.

&lt;400&gt; 9

Thr Pro Val Arg Thr Val Met Asn Thr Ile Gln Gln Leu Met Val Ile  
1 5 10 15

Leu Asn Ser Ala Ser Asp Gln Pro Ser Glu Asn Leu Ile Ser Tyr Phe  
20 25 30

Asn Asn Cys Thr Val Asn Pro Lys Glu Asn Ile Leu Lys Arg Val Lys  
35 40 45

Asp Val Gly His Ile Phe Lys Glu Lys Phe Ala Asn Ala Val Gly Gln  
50 55 60

Gly Cys Val Asp Ile Gly Val Gln Arg Tyr Lys Leu Gly Val Arg Leu  
65 70 75 80

Tyr Tyr Arg Val Met Glu Ser Met Leu Lys Ser Glu Glu Glu Arg Leu  
85 90 95

Ser Ile Gln Asn Phe Ser Lys Leu Leu Asn Asp Asn Ile Phe His Met  
100 105 110

Ser Leu Leu Ala Cys Ala Leu Glu Val Val Met Ala Thr Tyr Ser Arg  
115 120 125

Ser Thr Leu Gln His Leu Asp Ser Gly Thr Asp Leu Ser Phe Pro Trp  
130 135 140

Ile Leu Asn Val Leu Asn Leu Lys Ala Phe Asp Phe Tyr Lys Val Ile  
145 150 155 160

Glu Ser Phe Ile Lys Val Glu Ala Asn Leu Thr Arg Glu Met Ile Lys  
165 170 175

His Leu Glu Arg Cys Glu His Arg Ile Met Glu Ser Leu Ala Trp Leu  
180 185 190

Ser Asp Ser Pro Leu Phe  
195

&lt;210&gt; 10

&lt;211&gt; 198

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<212> PRT  
<213> Homo sapiens

<400> 10

Thr	Pro	Val	Arg	Thr	Val	Met	Asn	Thr	Ile	Gln	Gln	Leu	Met	Met	Ile
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			20					25					30		
Asn	Asn	Cys	Thr	Val	Asn	Pro	Lys	Glu	Ser	Ile	Leu	Lys	Arg	Val	Lys
		35					40					45			
Asp	Ile	Gly	Tyr	Ile	Phe	Lys	Glu	Lys	Phe	Ala	Lys	Ala	Val	Gly	Gln
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65				70						75					80
Tyr	Tyr	Arg	Val	Met	Glu	Ser	Met	Leu	Lys	Ser	Glu	Glu	Glu	Arg	Leu
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Ser	Ile	Gln	Asn	Phe	Ser	Lys	Leu	Leu	Asn	Asp	Asn	Ile	Phe	His	Met
			100					105					110		
Ser	Leu	Leu	Ala	Cys	Ala	Leu	Glu	Val	Val	Met	Ala	Thr	Tyr	Ser	Arg
		115					120					125			
Ser	Thr	Ser	Gln	Asn	Leu	Asp	Ser	Gly	Thr	Asp	Leu	Ser	Phe	Pro	Trp
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Ile	Leu	Asn	Val	Leu	Asn	Leu	Lys	Ala	Phe	Asp	Phe	Tyr	Lys	Val	Ile
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Glu	Ser	Phe	Ile	Lys	Ala	Glu	Gly	Asn	Leu	Thr	Arg	Glu	Met	Ile	Lys
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His	Leu	Glu	Arg	Cys	Glu	His	Arg	Ile	Met	Glu	Ser	Leu	Ala	Trp	Leu
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				195											

<210> 11  
<211> 191  
<212> PRT  
<213> Homo sapiens

<400> 11

Thr	Pro	Val	Ala	Ser	Ala	Thr	Gln	Ser	Val	Ser	Arg	Leu	Gln	Ser	Ile
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Val	Ala	Gly	Leu	Lys	Asn	Ala	Pro	Ser	Asp	Gln	Leu	Ile	Asn	Ile	Phe
			20					25					30		
Glu	Ser	Cys	Val	Arg	Asn	Pro	Val	Glu	Asn	Ile	Met	Lys	Ile	Leu	Lys

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35

45

Gly Ile Gly Glu Thr Phe Cys Gln His Tyr Thr Gln Ser Thr Asp Glu  
50 55 60

Gln Pro Gly Ser His Ile Asp Phe Ala Val Asn Arg Leu Lys Leu Ala  
65 70 75 80

Glu Ile Leu Tyr Tyr Lys Ile Leu Glu Thr Val Met Val Gln Glu Thr  
85 90 95

Arg Arg Leu His Gly Met Asp Met Ser Val Leu Leu Glu Gln Asp Ile  
100 105 110

Phe His Arg Ser Leu Met Ala Cys Cys Leu Glu Ile Val Leu Phe Ala  
115 120 125

Tyr Ser Ser Pro Arg Thr Phe Pro Trp Ile Ile Glu Val Leu Asn Leu  
130 135 140

Gln Pro Phe Tyr Phe Tyr Lys Val Ile Glu Val Val Ile Arg Ser Glu  
145 150 155 160

Glu Gly Leu Ser Arg Asp Met Val Lys His Leu Asn Ser Ile Glu Glu  
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Gln Ile Leu Glu Ser Leu Ala Trp Ser His Asp Ser Ala Leu Trp  
180 185 190

<210> 12  
<211> 200  
<212> PRT  
<213> Homo sapiens

<400> 12

Thr Pro Val Ser Thr Ala Thr His Ser Leu Ser Arg Leu His Thr Met  
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20 25 30

Arg Thr Cys Ser Arg Asp Pro Thr Gln Ala Ile Ala Asn Arg Leu Lys  
35 40 45

Glu Met Gln Ala Ile Ala Asn Arg Leu Lys Glu Met Phe Glu Ile Tyr  
50 55 60

Ser Gln His Phe Gln Pro Asp Glu Asp Phe Ser Asn Cys Ala Lys Glu  
65 70 75 80

Ile Ala Ser Lys His Phe Arg Phe Ala Glu Met Leu Tyr Tyr Arg Val  
85 90 95

Leu Glu Ser Val Ile Glu Gln Glu Gln Lys Arg Leu Gly Asp Met Asp  
100 105 110

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Leu Ser Gly Ile Leu Glu Gln Asp Ala Phe His Arg Ser Leu Leu Ala  
115 120 125

Cys Cys Leu Glu Val Val Thr Phe Ser Tyr Lys Pro Pro Gly Asn Phe  
130 135 140

Pro Phe Ile Thr Glu Ile Phe Asp Val Pro Leu Tyr His Phe Tyr Lys  
145 150 155 160

Val Ile Glu Val Phe Ile Arg Ala Glu Asp Gly Leu Cys Arg Glu Val  
165 170 175

Val Lys His Leu Asn Gln Ile Glu Glu Gln Ile Leu Asp His Leu Ala  
180 185 190

Trp Lys Pro Glu Ser Pro Leu Trp  
195 200

<210> 13

<211> 137

<212> PRT

<213> Zea mays

<400> 13

Asn Glu Lys Cys Ala Asp Val Thr Ile His Ile Phe Phe Ser Lys Ile  
1 5 10 15

Leu Lys Leu Ala Ala Ile Arg Ile Arg Asn Leu Cys Glu Arg Val Gln  
20 25 30

Cys Val Glu Gln Thr Glu Arg Val Tyr Asn Val Phe Lys Gln Ile Leu  
35 40 45

Glu Gln Gln Thr Thr Leu Phe Phe Asn Arg His Ile Asp Gln Leu Ile  
50 55 60

Leu Cys Cys Leu Tyr Gly Val Ala Lys Val Cys Gln Leu Glu Leu Thr  
65 70 75 80

Phe Arg Glu Ile Leu Asn Asn Tyr Lys Arg Glu Ala Gln Cys Lys Pro  
85 90 95

Glu Val Phe Ser Ser Ile Tyr Ile Gly Ser Thr Asn Arg Asn Gly Val  
100 105 110

Leu Val Ser Arg His Val Gly Ile Ile Thr Phe Tyr Asn Glu Val Phe  
115 120 125

Val Pro Ala Ala Lys Pro Phe Leu Val  
130 135

<210> 14

<211> 129

<212> PRT

<213> Xenopus sp.

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Leu Ala Tyr Lys Arg Leu Ser Ser Leu Cys Ser Ser Leu Leu Ser Asp  
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His Pro Glu Leu Glu Gln Val Ile Trp Thr Leu Leu Gln His Thr Leu  
35 40 45  
Gln Gln Glu Tyr Glu Leu Met Arg Asp Arg His Leu Asp Gln Ile Met  
50 55 60  
Met Cys Ser Met Tyr Gly Ile Cys Lys Ala Lys Asn Ile Asp Leu Arg  
65 70 75 80  
Phe Lys Thr Ile Val Thr Ala Tyr Lys Gly Leu Thr Asn Thr Asn Gln  
85 90 95  
Glu Thr Phe Lys His Val Leu Ile Arg Asp Gly Gln His Asp Ser Ile  
100 105 110  
Ile Val Phe Tyr Asn Leu Val Phe Met Gln Lys Leu Lys Ser His Ile  
115 120 125  
Leu

<210> 15

<211> 131

<212> PRT

<213> Gallus sp.

<400> 15

Gln Lys Pro Gln Lys Ser Thr Ser Leu Ser Leu Phe Tyr Lys Lys Val  
1 5 10 15  
Phe Arg Leu Ala Tyr Leu Arg Leu His Thr Leu Phe Phe Arg Leu Leu  
20 25 30  
Ser Glu His Pro Asp Leu Glu Pro Leu Ile Trp Thr Leu Phe Gln His  
35 40 45  
Thr Leu Gln Asn Glu Ser Glu Leu Met Arg Asp Arg His Leu Asp Gln  
50 55 60  
Ile Met Met Cys Ser Met Tyr Gly Ile Cys Lys Val Lys Asn Val Asp  
65 70 75 80  
Leu Arg Phe Lys Thr Ile Val Ser Ala Tyr Lys Glu Leu Pro Asn Thr  
85 90 95  
Asn Gln Glu Thr Phe Lys Arg Val Leu Ile Arg Glu Glu Gln Tyr Asp  
100 105 110

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Ser Ile Ile Val Phe Tyr Asn Leu Val Phe Met Gln Lys Leu Lys Thr  
115 120 125

Asn Ile Leu  
130

<210> 16  
<211> 131  
<212> PRT  
<213> Mus sp.

<400> 16  
Gln Lys Pro Leu Lys Ser Thr Ser Leu Ala Leu Phe Tyr Lys Lys Val  
1 5 10 15

Tyr Arg Leu Ala Tyr Leu Arg Leu Asn Thr Leu Cys Ala Arg Leu Leu  
20 25 30

Ser Asp His Pro Glu Leu Glu His Ile Ile Trp Thr Leu Phe Gln His  
35 40 45

Thr Leu Gln Asn Glu Tyr Glu Leu Met Arg Asp Arg His Leu Asp Gln  
50 55 60

Ile Met Met Cys Ser Met Tyr Gly Ile Cys Lys Val Lys Asn Ile Asp  
65 70 75 80

Leu Lys Phe Lys Ile Ile Val Thr Ala Tyr Lys Asp Leu Pro His Ala  
85 90 95

Ala Gln Glu Thr Phe Lys Arg Val Leu Ile Arg Glu Glu Glu Phe Asp  
100 105 110

Ser Ile Ile Val Phe Tyr Asn Ser Val Phe Met Gln Arg Leu Lys Thr  
115 120 125

Asn Ile Leu  
130

<210> 17  
<211> 130  
<212> PRT  
<213> Homo sapiens

<400> 17  
Gln Lys Pro Leu Lys Ser Thr Ser Leu Ser Leu Phe Tyr Lys Lys Val  
1 5 10 15

Tyr Arg Leu Ala Tyr Leu Arg Asn Thr Leu Cys Glu Arg Leu Leu Ser  
20 25 30

Glu His Pro Glu Leu Glu His Ile Ile Trp Thr Leu Phe Gln His Thr  
35 40 45

Leu Gln Asn Glu Tyr Glu Leu Met Arg Asp Ala His Leu Asp Gln Ile

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50

55

60

Met Met Cys Ser Met Tyr Gly Ile Cys Lys Val Lys Asn Ile Asp Leu  
65 70 75 80

Lys Phe Lys Ile Ile Val Thr Ala Tyr Lys Asp Leu Pro His Ala Val  
85 90 95

Gln Glu Thr Phe Lys Arg Val Leu Ile Lys Glu Glu Glu Tyr Asp Ser  
100 105 110

Ile Ile Val Phe Tyr Asn Ser Val Phe Met Gln Arg Leu Lys Thr Asn  
115 120 125

Ile Leu  
130

&lt;210&gt; 18

&lt;211&gt; 166

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 18

Asn Arg Pro Lys Arg Thr Gly Ser Leu Ala Leu Phe Tyr Arg Lys Val  
1 5 10 15

Tyr His Leu Ala Ser Val Arg Leu Arg Asp Leu Cys Leu Lys Leu Asp  
20 25 30

Val Ser Asn Glu Leu Arg Arg Lys Ile Trp Thr Cys Phe Glu Phe Thr  
35 40 45

Leu Val His Cys Pro Asp Leu Met Lys Asp Arg His Leu Asp Gln Leu  
50 55 60

Leu Leu Cys Ala Phe Tyr Ile Met Ala Lys Val Thr Lys Glu Glu Arg  
65 70 75 80

Thr Phe Gln Glu Ile Met Lys Ser Tyr Arg Asn Gln Pro Gln Ala Asn  
85 90 95

Ser His Val Tyr Arg Ser Val Leu Leu Lys Ser Ile Pro Arg Glu Val  
100 105 110

Val Ala Tyr Asn Lys Asn Ile Asn Asp Asp Phe Glu Met Ile Asp Cys  
115 120 125

Asp Leu Glu Asp Ala Thr Lys Thr Pro Asp Cys Ser Ser Gly Pro Val  
130 135 140

Lys Glu Glu Arg Ser Asp Leu Ile Lys Phe Tyr Asn Thr Ile Tyr Gly  
145 150 155 160

Arg Val Ser Phe Ala Leu  
165

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<210> 19  
<211> 195  
<212> PRT  
<213> Homo sapiens

<400> 19

Asn Arg Pro Arg Lys Thr Ser Ser Leu Ser Leu Phe Phe Arg Lys Val  
1 5 10 15

Tyr His Leu Ala Ala Val Arg Leu Arg Asp Leu Cys Ala Lys Leu Asp  
20 25 30

Ile Ser Asp Glu Leu Arg Lys Lys Ile Trp Thr Cys Phe Glu Phe Ser  
35 40 45

Ile Ile Gln Cys Pro Glu Leu Met Met Asp Arg His Leu Asp Gln Leu  
50 55 60

Leu Met Cys Ala Ile Tyr Val Met Ala Lys Val Thr Lys Glu Asp Lys  
65 70 75 80

Ser Phe Gln Asn Ile Met Arg Cys Tyr Arg Thr Gln Pro Gln Ala Arg  
85 90 95

Ser Gln Val Tyr Arg Ser Val Leu Ile Lys Gly Lys Arg Lys Arg Arg  
100 105 110

Asn Ser Gly Ser Ser Asp Ser Arg Ser His Gln Asn Ser Pro Thr Glu  
115 120 125

Leu Asn Lys Asp Arg Thr Ser Arg Asp Ser Ser Pro Val Met Arg Ser  
130 135 140

Ser Ser Thr Leu Pro Val Pro Gln Pro Ser Ser Ala Ala Pro Thr Pro  
145 150 155 160

Thr Arg Leu Thr Gly Ala Asn Ser Asp Met Glu Glu Glu Glu Arg Gly  
165 170 175

Asp Leu Ile Gln Phe Tyr Asn Asn Ile Tyr Ile Lys Gln Ile Lys Thr  
180 185 190

Phe Ala Met  
195

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